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TELECOPIER COVER PAGE

TO: Examiner Brian Le - Art Unit 2623

FAX: 703-746-3483

FROM: David Chan - Reg. 51,540

DATE: December 1, 2003

SUBJECT: Request for Interview for 09/637,456 - Issues to be discussed

NUMBER OF PAGES TO FOLLOW THIS COVER PAGE: 8

Please see attached.

Please contact David Chan at 213-229-2900 to schedule a telephone interview date either later this week or early next week. Thank you.

Client Code: 7057-0013 Operator: PE Time: 11:25

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PTOL-413A (08-03)
Approved for use through 07/31/2008. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Applicant Initiated Interview Request Form

Application No.: 09/637,456 First Named Applicant: Timothy Van Hook
Examiner: Brian Le Art Unit: 2623 Status of Application: _____

Tentative Participants:
(1) DavidChan Reg 51,540 (2) _____
(3) _____ (4) _____

Proposed Date of Interview: TBD **Proposed Time:** TBD (AM/PM)

Type of Interview Requested:
(1) [X] Telephonic (2) [ ] Personal (3) [ ] Video Conference

Exhibit To Be Shown or Demonstrated: [ ] YES [X] NO
If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rej	1,5,9,11	Bhargava, Jung	[ ]	[ ]	[ ]
(2)			[ ]	[ ]	[ ]
(3)			[ ]	[ ]	[ ]
(4)			[ ]	[ ]	[ ]

[X] Continuation Sheet Attached

Brief Description of Arguments to be Presented: see attached

An interview was conducted on the above-identified application on _____.

NOTE:
This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).
This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

_____ _____
(Applicant/Applicant's Representative Signature) (Examiner/SPE Signature)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s)	:	Timothy Van Hook
Application No.	:	09/637,456
Filed	:	08/11/2000
Title	:	**Method and Apparatus for Compression and Decompression of Data**
Group/Unit	:	2623
Examiner	:	Le, Brian Q.
Reference	:	0007057-0013

Issues to be discussed in interview:

Applicant requests an interview to discuss proposed reply and amendments to the rejected claims.

Independent claim 1

Main Issue: Examiner stated the combination of Jung and Bhargava render claim 1 obvious. Applicant argues that, for claim 1, at least limitation (b) and (d) are not taught by either reference:

(a) defining a plurality of tiles of data;

(b) defining a tile format table containing a status entry for each of said plurality of tiles;

(c) compressing said tile when said compressed tile is smaller than said tile;

(d) setting said status entry for said compressed tile in said tile format table;

(e) storing said compressed tile in a memory.

Reasons:

1. "tile format table" not taught

FIG. 13A (col. 13, lines 30-45) and col. 10, lines 10-17 were cited as reference for Bhargava teaching limitations (b) and (d). However, neither FIG. 13A nor col. 10 lines 10-17 refers to a "tile format table." More specifically, FIG. 13A shows the transmission format used for transmitting an entire frame (col. 13, lines 31-34). As such the

"HEADER" label in Fig. 13 refers to header information for an entire frame, not an individual tile as alleged by the Examiner. Also, although Fig. 13A has a label named "TILE DATA", it only indicates a section where the tile data is transmitted sequentially. There is not a separate "tile format table containing status entry for each tile."

2. Data format table in Bhargava not used in tiles, reference teaches away

Furthermore, col. 10, lines 10-17 of Bhargava refer to the DATA FORMAT disclosed in Appendix I. However, a closer look of Appendix I reveals that the DATA FORMAT disclosed refers to an image data format with header information, not a tile data format as alleged (col. 17, 18). Finally, as this DATA FORMAT is used in step 52 of Fig. 5 (co. 10, lines 9-10), where tiles have not yet been created according to the flow chart, it cannot be seen as a "tile format table."

3. Differences between present invention and Bhargava

In the present invention, the tile format table is an entity separate from the tile data. The tile format table has an entry indicating the compression status of each tile stored in memory. The tile format table allows for efficient read and write of tile data, which may or may not be compressed into various sizes. In contrast, Bhargava does not teach such mechanism because it stores all tiles into a common data format within a frame. As a video based application, Bhargava accesses data by frame, rather than by tile in the present invention. Also, since compression in Bhargava is achieved by eliminating small differences in a frame and encoding pixels with the same data into tiles, there is no need to keep track of the compression status of a tile (Fig. 4, each tile is encoded by 3 values). Therefore, Bhargava does not need a tile format table with a status bit and thus it does not suggest such modification in its disclosure. It must be noted that merely storing tile data in a format (as in Bhargava) does not constitute having a tile format table.

4. No mention in Jung of limitations (b) and (d) involving "tile format table."

Independent claim 5

Main Issue: Claim 5 was rejected with the same basis as claim 1 and should now be allowed based on the argument presented for claim 1.

Dependent Claim 9

Main Issue: Examiner stated that Bhargava teaches the limitation "entropy encoded differences between adjacent pixel color components."

Applicant disagrees.

Reasons:

1. It is impossible to apply Huffman encoding to "differences between adjacent pixel color components" in Bhargava.

The Examiner cited that component 120 of Fig. 12 in Bhargava teaches this limitation. However, in component 120, Huffman encoding is performed over the entire aggregate of tiles and sub-tiles (col. 10, lines 12-16). It is important to note that by the time Bhargava applies Hoffman encoding (step 120 in Fig. 12) all the values within each individual tile and sub-tile in Bhargava have been equalized by STC and contain "no differences between adjacent pixel color components." So it is impossible to apply Huffman encoding to "differences between adjacent pixel color components."

Dependent Claim 11

Main Issue: Examiner stated that Bhargava teaches the limitation "multiple component difference codes are combined into a single code per pixel."

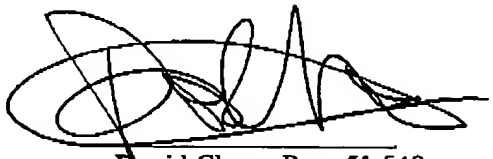
Applicant disagrees.

Reason:

1. Bhargava teaches a method of wiping out small data differences within a tile, not combining multiple component difference codes.

The Examiner cited col. 4, lines 65-67 as reference in Bhargava teaching such limitation. However, the reference only refers to wiping out the small value differences within an area of the frame. Figs. 1-3 show that small differences among the pixels are equalized so all pixels within a difference threshold get the same values (result shown in Fig. 3). In contrast, the present invention teaches combining "multiple component difference codes" into "a single code per pixel." For example, the difference in the Red component, difference in Green component, and difference in Blue component within the same single pixel are combined to one single difference value. Unlike Bhargava, this combination exists entirely within a single pixel and does not involve equalizing the pixel value in combination with other pixels.

A copy of the proposed claims is attached herein for reference. A telephonic interview is hereby requested.



David Chan - Reg. 51,540

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PROPOSED AMENDMENTS TO THE CLAIMS

1. (original) A method of compressing data in a graphics processing system comprising:

defining a plurality of tiles of data;

defining a tile format table containing a status entry for each of said plurality of tiles;

compressing said tile when said compressed tile is smaller than said tile;

setting said status entry for said compressed tile in said tile format table;

storing said compressed tile in a memory.

2. (original) The method of claim 1 wherein said compression is lossless.

3. (original) The method of claim 1 wherein each of said tiles comprises a cache line.

4. (currently amended) The method of claim 1 wherein tiles read from said memory are decompressed when said status ~~bit~~ entry indicates that said tile is a compressed tile.

5. (original) A method of compressing color pixels in a graphics processor system comprising:

defining a plurality of tiles of data;

defining a tile format table containing a status entry for each of said plurality of tiles;

compressing said tile when said compressed tile is smaller than said tile;

setting said status entry for said compressed tile in said tile format table;

storing said compressed tile in a memory.

6. (original) The method of claim 5 wherein each compressed tile is compressed using one of a plurality of compression methods.

7. (original) The method of claim 6 wherein each compressed tile includes a value identifying the compression method of said plurality of compression methods used to compress said compressed tile.

8. (original) The method of claim 6 wherein each tile is comprised of pixels having pixel color components.

9. (original) The method of claim 8 wherein one of said compression methods comprises entropy encoded differences between adjacent pixel color components.

10. (original) The method of claim 9 in which the assignment of entropy codes per tile is based on the frequency of occurrence of difference values within said tile.

11. (original) The method of claim 10 in which multiple component difference codes are combined into a single code per pixel.

12. (original) The method of claim 9 in which unique color or component values in a tile are extracted and sorted by minimal difference, are entropy encoded, and are indexed per pixel in said tile.

13. (original) The method of claim 12 in which said unique colors and components are sorted in a manner that minimizes a size of pixel difference encoding and minimizes a size of color and component difference encoding.

14. (new) The method of claim 1 wherein said status entry indicates the level of compression used in said tile.

15. (new) The method of claim 5 wherein said status entry indicates the level of compression used in said tile.

16. (new) The method of claim 1 wherein said status entry indicates the validity of data in said tile.

17. (new) The method of claim 5 wherein said status entry indicates the validity of data in said tile.